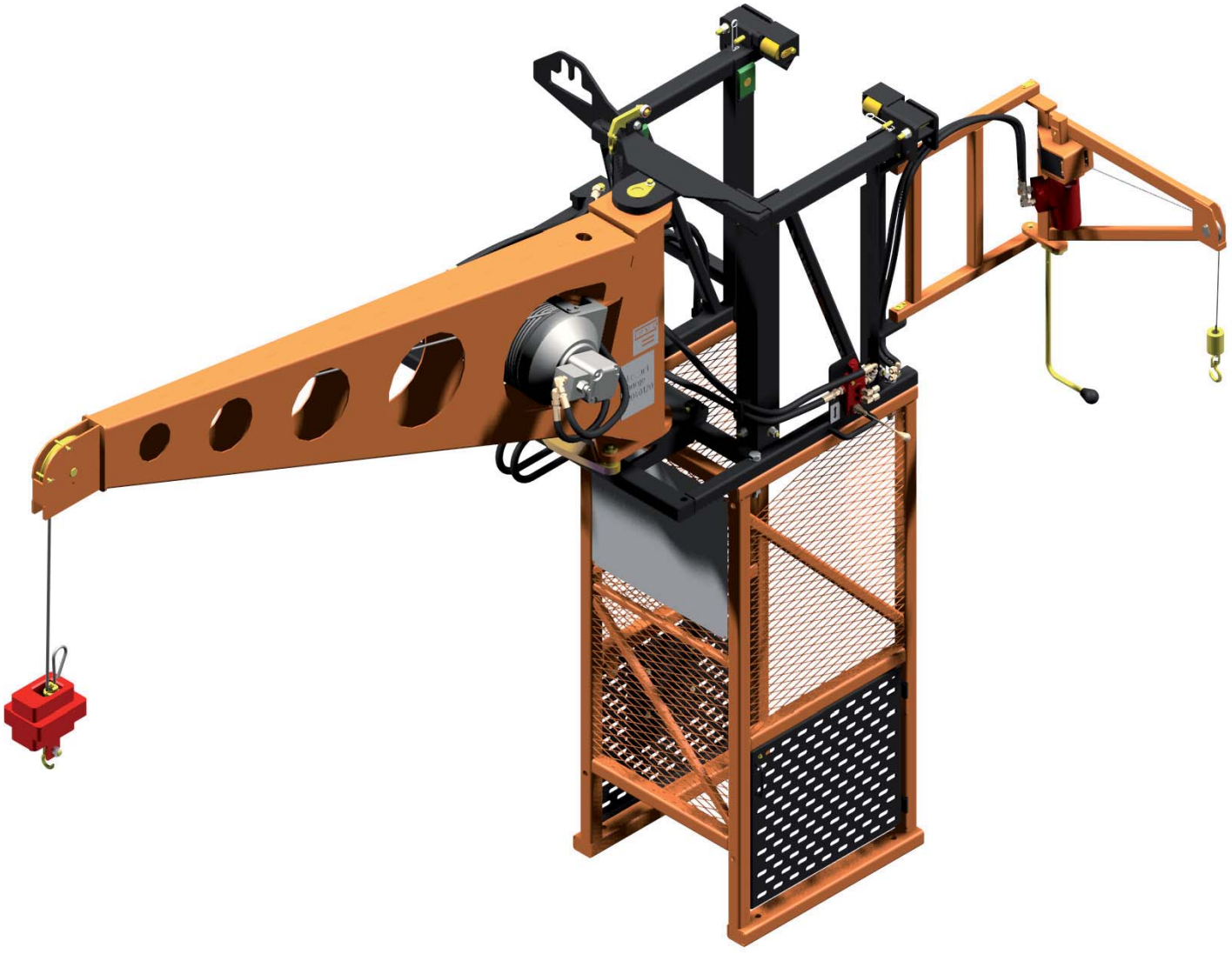
FRACO

Annex B

4000 FRH

User's Guide



FRH-4000 r.04-09/2007

Congratulations!

You are about to use the excellent **FRACO FRH-4000** portable crane system! This system stands out for its safety, stability and flexibility.

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The instruction manual and safety rules presented on the following pages will safely guide you through all the possibilities of this system. The platform cannot be sold or rented without this user's guide.

Les Produits FRACO Ltée reserves the right to modify the portable crane or its manual without notice, and will not assume any responsibility for any prejudices that may occur. The **FRACO FRH-4000** portable crane system meets the **OSHA and CE EN 1495:1997F** requirements, except for the non-applicable ring and pinion systems.

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Warranty

Les Produits FRACO Ltée, hereafter referred to as **FRACO**, guarantees its new products against any material or manufacturing defects for a period of one year from the date of delivery to the first user, or for a period of 12 months from the date of delivery to the accredited dealer.

FRACO's obligation and liability in virtue of this warranty are expressly limited to repairing or replacing with re-machined or new materials, at **FRACO**'s discretion, any part which appears to have a material or manufacturing defect. These parts shall be supplied free of charge according to the FOB terms of the dealer or user, at **FRACO**'s discretion.

Depending on the provisions of the service policy in force at the time of delivery, and in virtue of the provisions of this warranty, **FRACO** shall pay the installation cost for any repaired or replaced part. **FRACO** shall not bear any labor costs unless written authorization is obtained before the work begins.

This warranty does not apply to parts or accessories for products that were not manufactured by **FRACO** and which are covered by a warranty from their own manufacturer, nor does it apply to normal maintenance (for example, motor tuning) or to parts used in normal maintenance. **FRACO** offers no other warranty, either express or implicit, and gives no guarantee of commercial value or pertinence for a given application.

FRACO's obligation in virtue of this warranty does not cover customs duties, taxes or any other fees, nor does it bear any liability for direct, indirect, incidental or resulting damage or delay. If **FRACO** so requests, the products or parts for which a warranty claim is made must be returned to **FRACO** at the expense of the dealer or owner.

Any improper use, including use of the product after defective or worn parts have been discovered, shall cancel this warranty. Other improper use that shall result in the cancellation of the warranty includes using the product beyond its rated capacity, substituting other parts for **FRACO**-approved parts (including anchors), or any third-party alterations, modifications or repairs which **FRACO** deems to have damaged the product.

Table of Contents

CHAPTER *A*

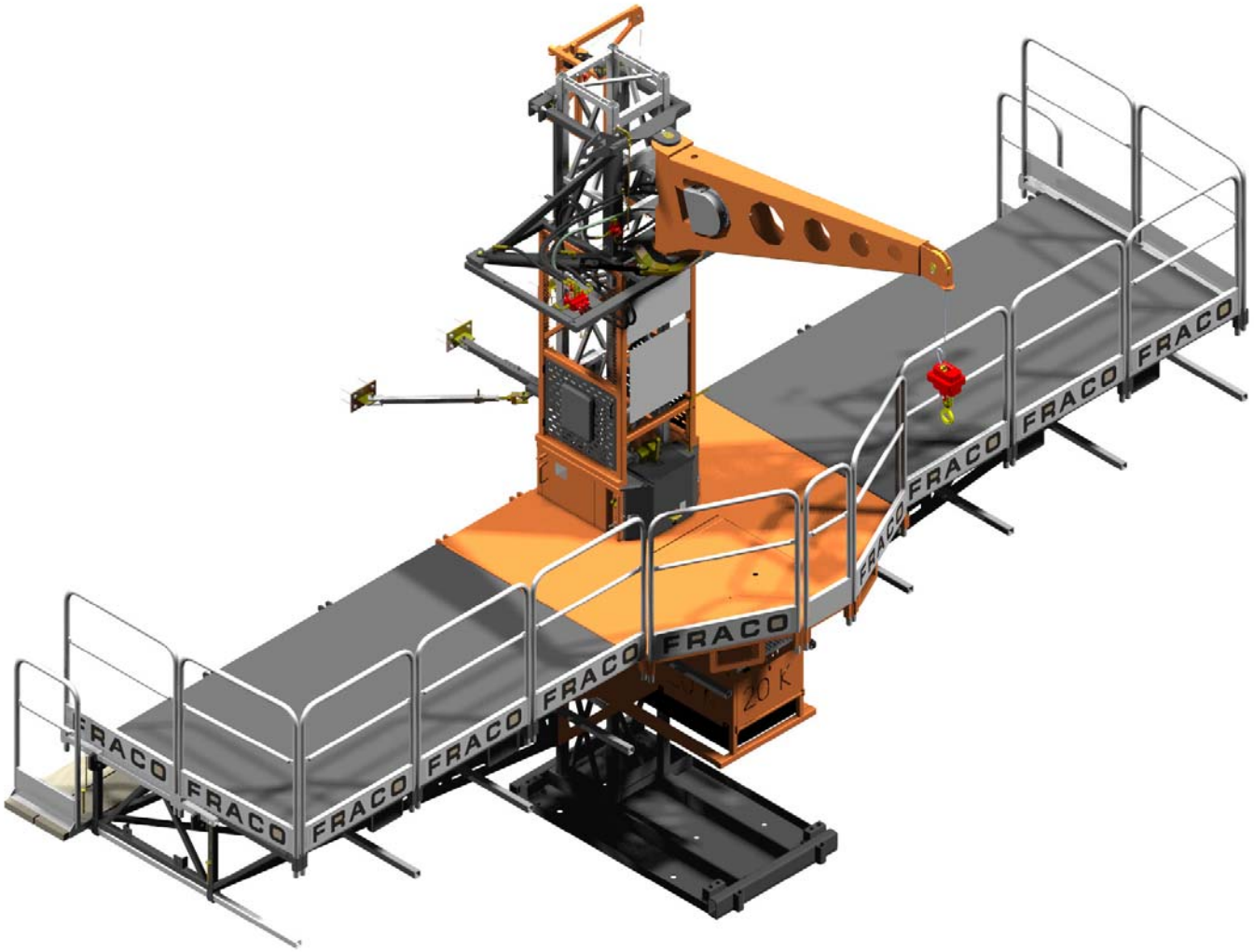
General Information

Warning A-2
Indentification Plate A-3
General View A-4

CHAPTER *B*

Installation and Operation

Installation of Portable Crane B-2
Operation of the Control Arms B-5
Loading Capacities B-6



CHAPTER A

General Information

- Warning A-2
- Identification Plate A-3
- General View A-4

Warning

Safety is our first concern

- For that reason, never remove or alter any part in order to adapt the portable crane to fit a specific area of the building.

Use only FRACO genuine parts

- FRACO (and/or its importer / representative) cannot be responsible for any property damage, severe injury or death that may result from failure to comply with the following safety recommendations, local rules and regulations.

Before operating this FRACO system, the following safety rules must be read and completely understood

1- Unauthorized use is not permitted. You must be trained by an authorized FRACO representative or dealer. The operator should be familar with the user's guide and understand all the functions of this equipment.

2- It is the responsibility of the operator to ensure that the proper load is not exceeded.

3- Do not install the portable crane on a freestanding platform.

4- **The portable crane must never exceed the last anchor.**

5- Never assume anything. If you have questions concerning the operation of this FRACO system, STOP! Refer to the proper user's manual. If you are still unsure, do not continue and call FRACO immediately.

6- Never replace components or parts without the consent of the manufacturer.

7- This equipment is designed to be installed on the tower guard of a FRACO platform 20K only.

8- Before operating the crane, all persons are to be alerted.

9- The portable crane described herein is not designed for operations involving lifting or moving personnel.

10- Do not lift or carry loads over people.

11- Do not jerk the winch. Always smoothly accelerate and decelerate the loads.

12- Do not operate a damaged, noisy or malfunctionning portable crane.

13- Do not leave a load suspended for any extended period of time.

14- Never leave a suspended load unattended.

15- Inspect winch, rigging, mounting bolts and hoses before each shift.

16- Warm-up equipment before operating the portable crane, particularly at low ambient temperatures.

17- Wear proper clothing to avoid entanglement in rotating machinery.

18- Always stay at a safe distance from the load.

19- Maintain the portable crane and equipment in good operating condition. Perform scheduled maintenance regularly.

20- Keep hands clear from the crane boom when winding wire cable onto the winch drum.

21- Do not lift a load with a twisted, kinked or damaged wire cable.

22- The replacement of the wire cable must be done by an authorized technician. Authorized technician must have level A2 FRACO mechanical licence.

23- Maintain five wraps of wire cable on the cable drum at all times.

24- Mark out with beacons and forbid the access under the lifting area.

25- The load must be lifted vertically at a 2° angle (see chart in page B-6).

26- Verify that the pulley can turn easily and the raised load cannot be lowered by itself

27- If the warning panel on the equipment is damaged or missing , do not use and call your FRACO representative for a replacement.

28- If the guardrails are removed, wear your safety harness

29- A minimum of (5) five wraps of wire rope should remain on the cable drum at all times

Always wear your safety harness when installing and dismantling the mast sections, the wall ties and when manipulating the planks when passing the wall ties. Safety harnesses that meet the local safety code must be available at all times for each person on the platform. A safety line, also conform to those codes and of sufficient length for the working height of the platform must be available at all times on the platform.

Indentification Plate

This plate is placed on the side of the protective cab engine and **must be visible at all times.**

Figure A.1
Identification plate

Serial number

YYY - ZZZZ = **YY** (Year of manufacture) **ZZZZ** (Portable crane number)

General View

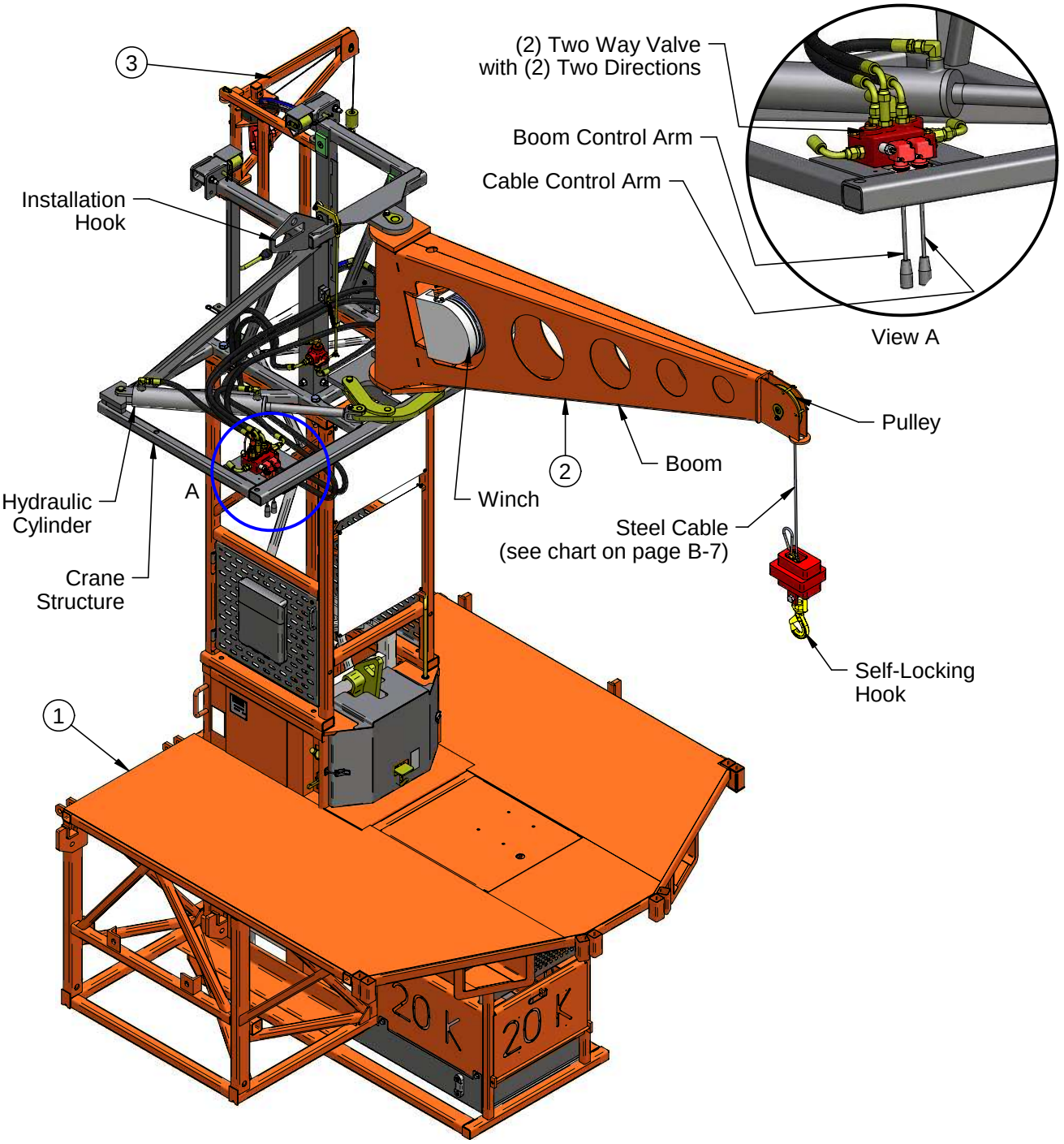
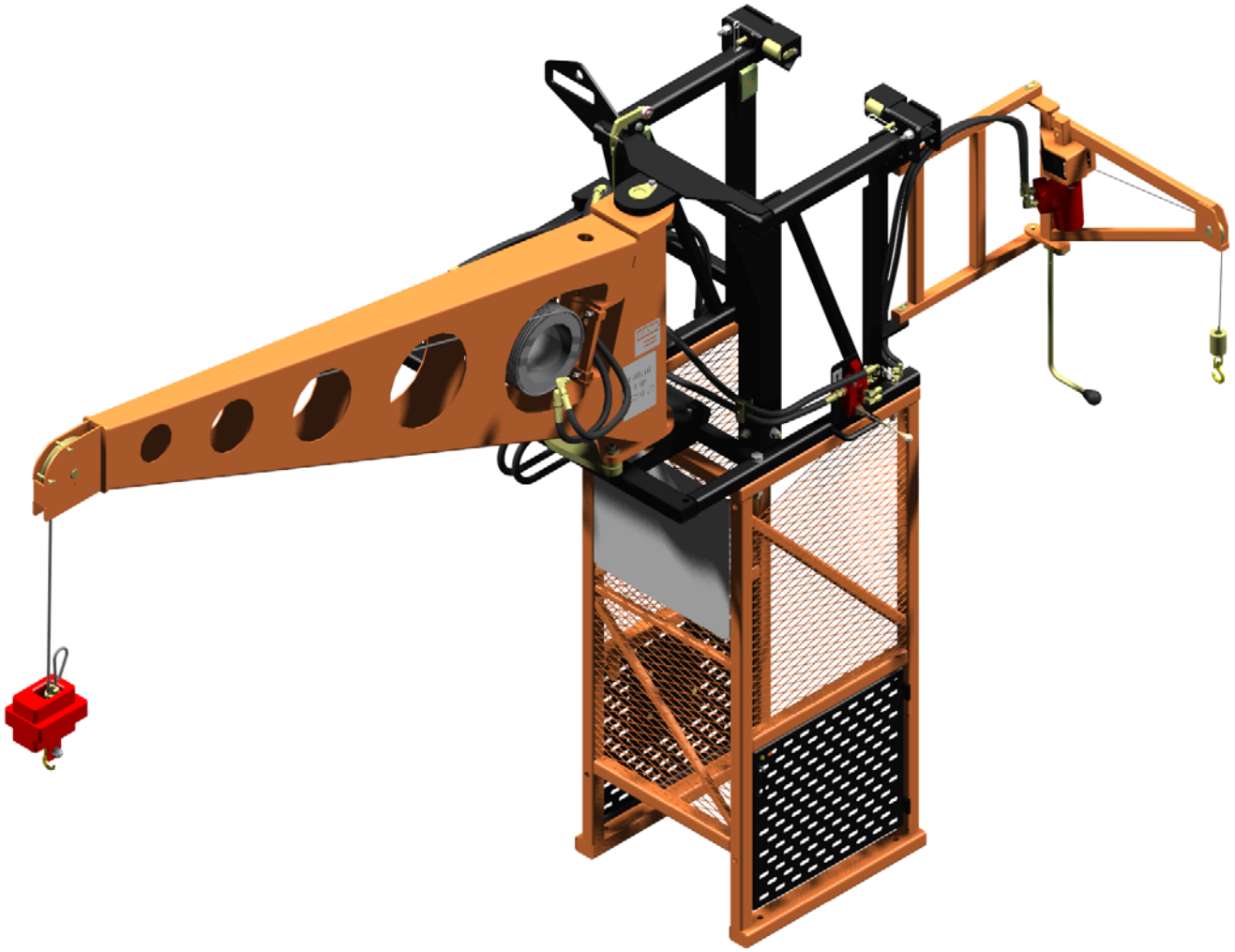


Figure A.2
General View

List of Components		
No.	**Code**	**Description**
1	10060018	20K Elevating Unit
2	12490118	Portable Crane for 20” x 20” Mast
3	12490118	Self-Erecting



CHAPTER B

Installation and Operation

- Installation of Portable Crane B-2
- Operation of the Control Arms B-5
- Loading Capacities B-6

Installation of Portable Crane

Step 1 (see Figure B.1)

- Unbolt the portable crane using a lifting device.
- Remove the bolts.
- Seperate the portable crane from the protection wire mesh and set it up right.

Step 2 (see Figure B.2 and View A)

- Install the hoist on the protection wire mesh and bolt it using (4) four bolts supplied with protection wire mesh.

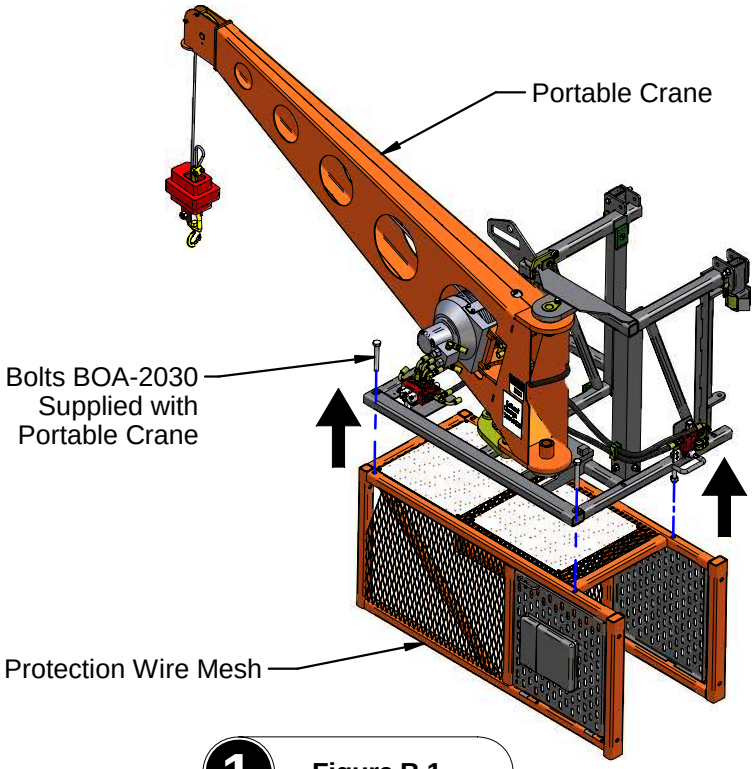


Figure B.1

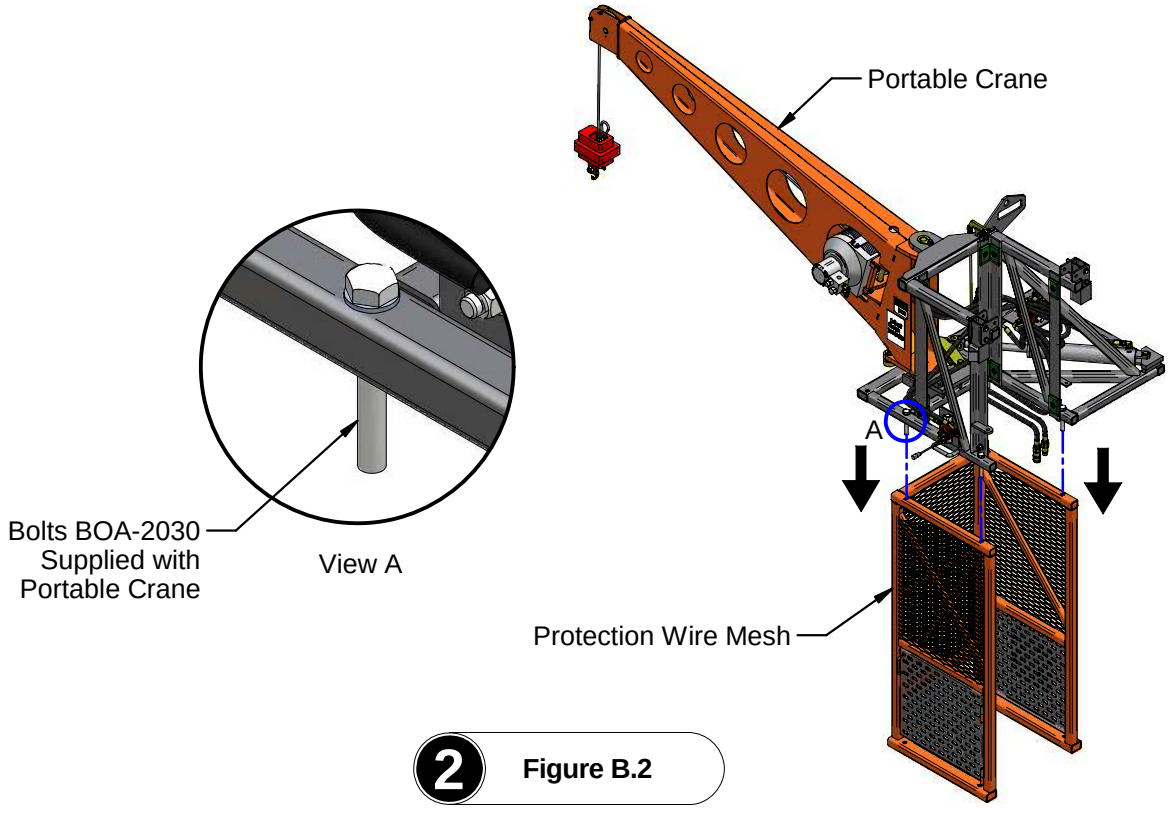


Figure B.2

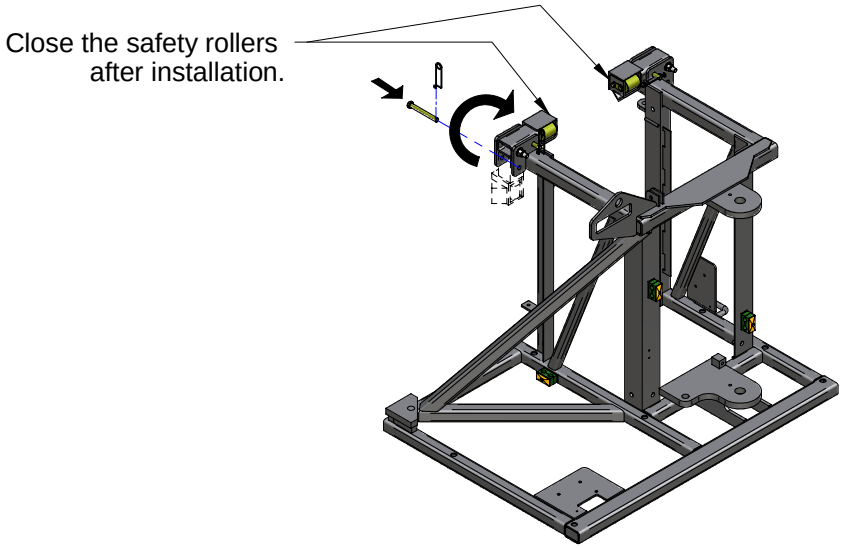
Installation of Portable Crane (continued)

Step 3 (see Figure B.3)

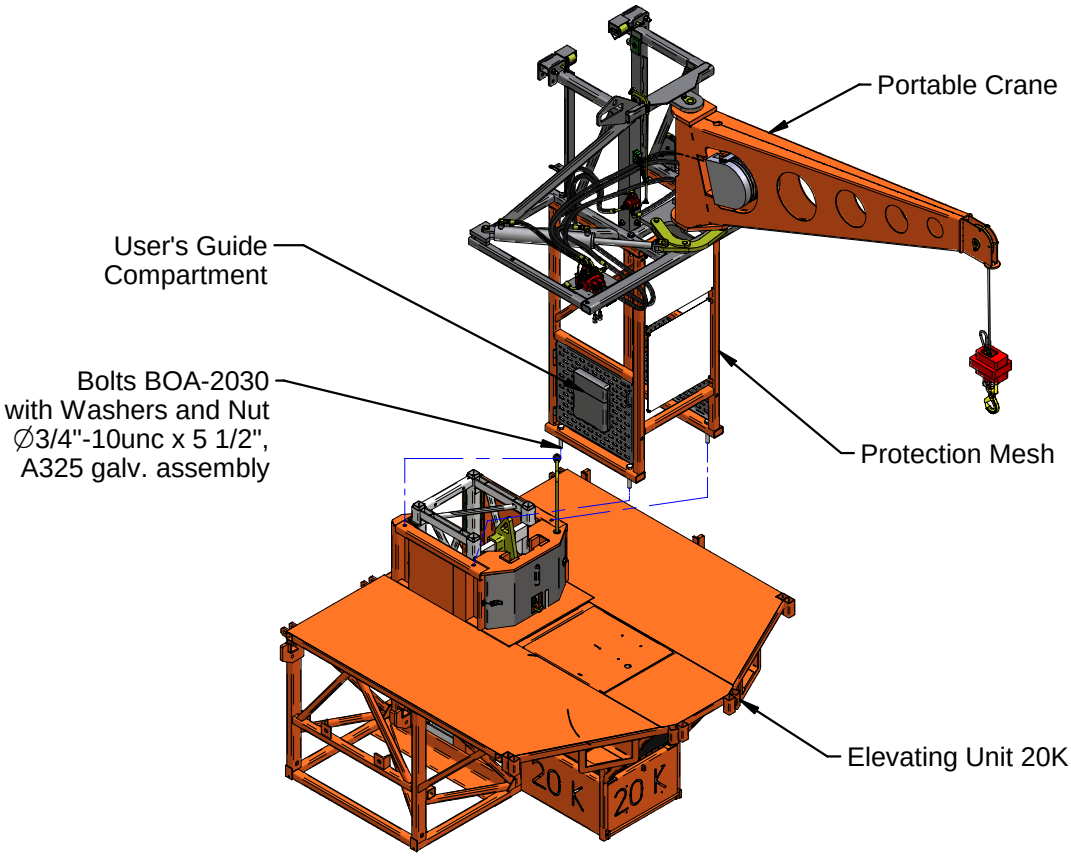
- Install the portable crane on the elevating unit and fold back the safety rollers. Install the safety rollers on the portable crane using the safety pins.

Step 4 (see Figure B.4)

- Bolt (4) four bolts supplied with protection wire mesh to the elevating unit.



3 **Figure B.3**



4 **Figure B.4**

Installation of Portable Crane (continued)

Step 5 (see Figure B.5, View A)

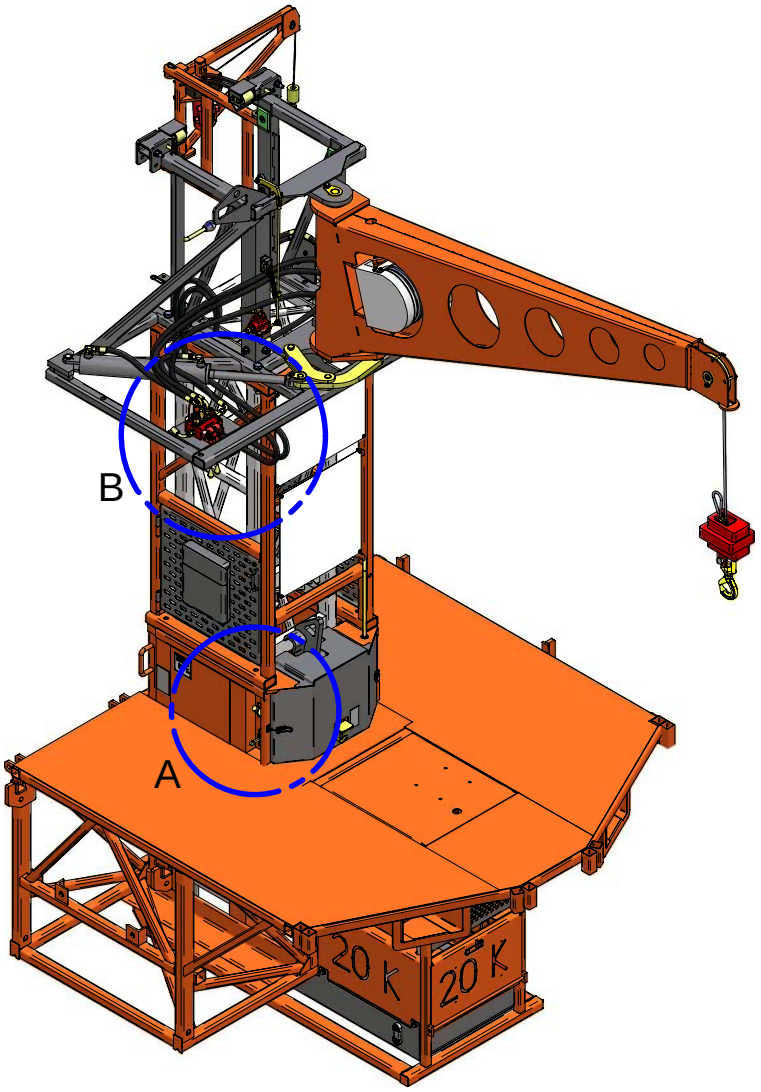
- Connect the crane's hydraulic hose on the elevating unit.

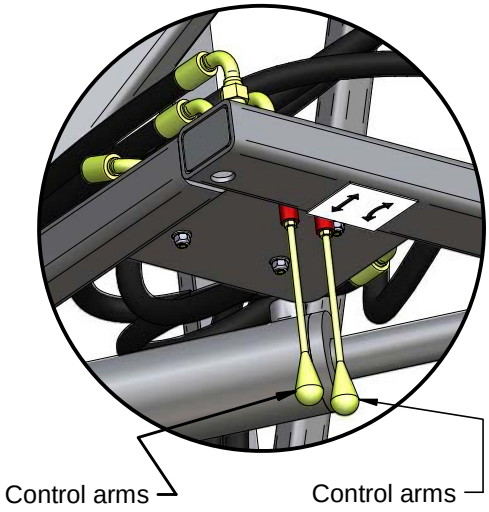
Step 6 (see Figure B.5, View B)

- Screw on the control arms on the control valve.
- These arms are in the user's guide compartment mounted on the protection wire mesh.

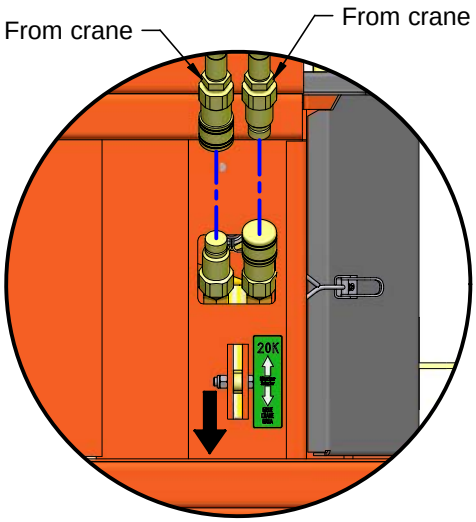
Step 7 (see Figure B.5, View A)

- When using the crane, you must ensure that the selector of the elevating unit is on positon «CRANE».





View B (bottom view)



View A

Figure B.5 Connection

Operation of the Control Arms

A (see Figure B.6 and View A)

- Push control arm « A » to move load from ground to the top (cable up).

B (see Figure B.6 and View A)

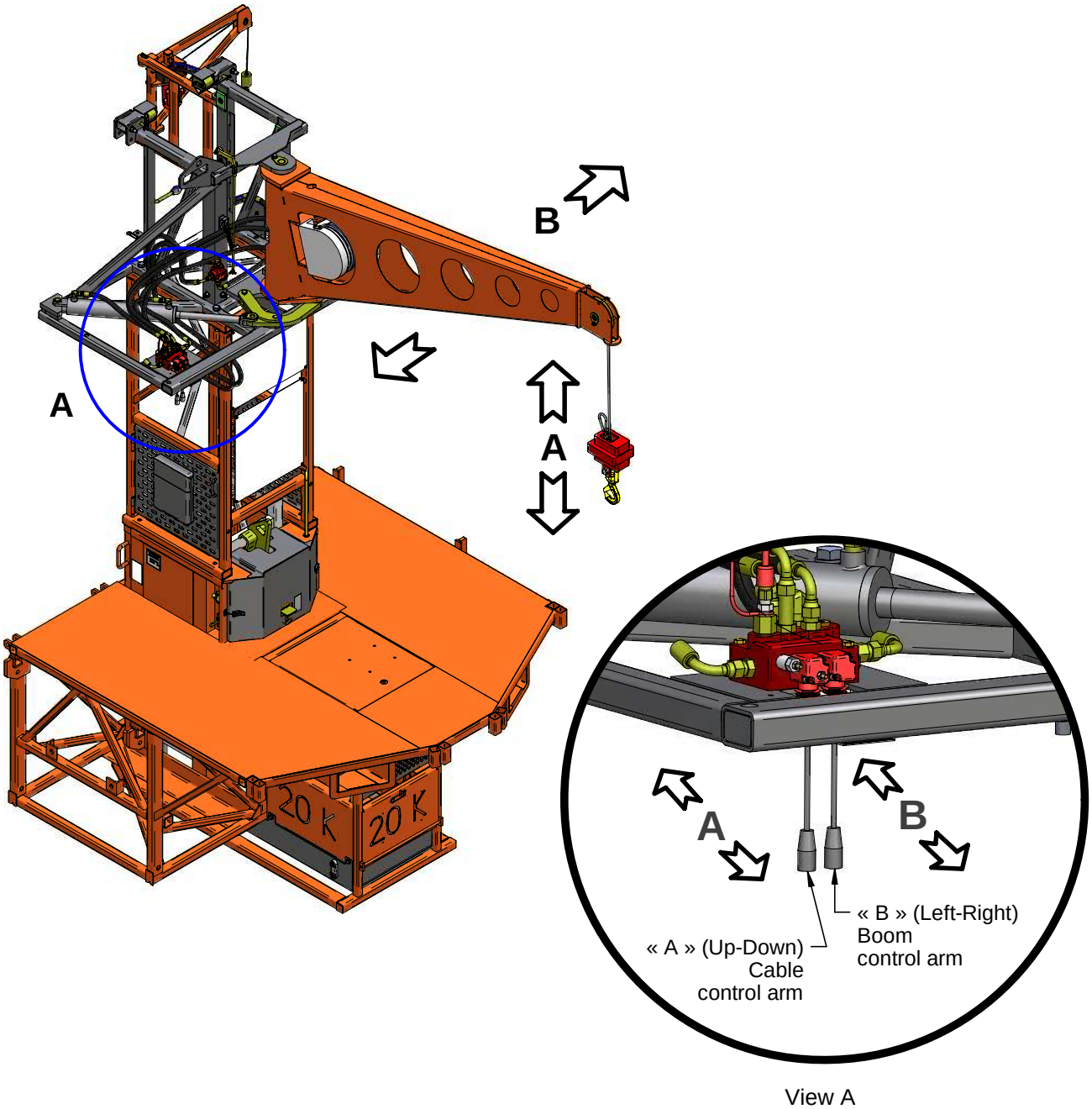
- Pull control arm « A » to move load from top to the ground (cable down).

C (see Figure B.6 and View A)

- Push control arm « B » to move the boom right to left (swing left).

B (see Figure B.6 and View A)

- Pull control arm « B » to move the boom left to right (swing right).



View A

Figure B.6
Operation

Loading Capacities

The loading area is located on the each side of the elevating unit

- It is important to distribute the load on the platform.
- Refer to the platform user's guide to know the proper load distribution.

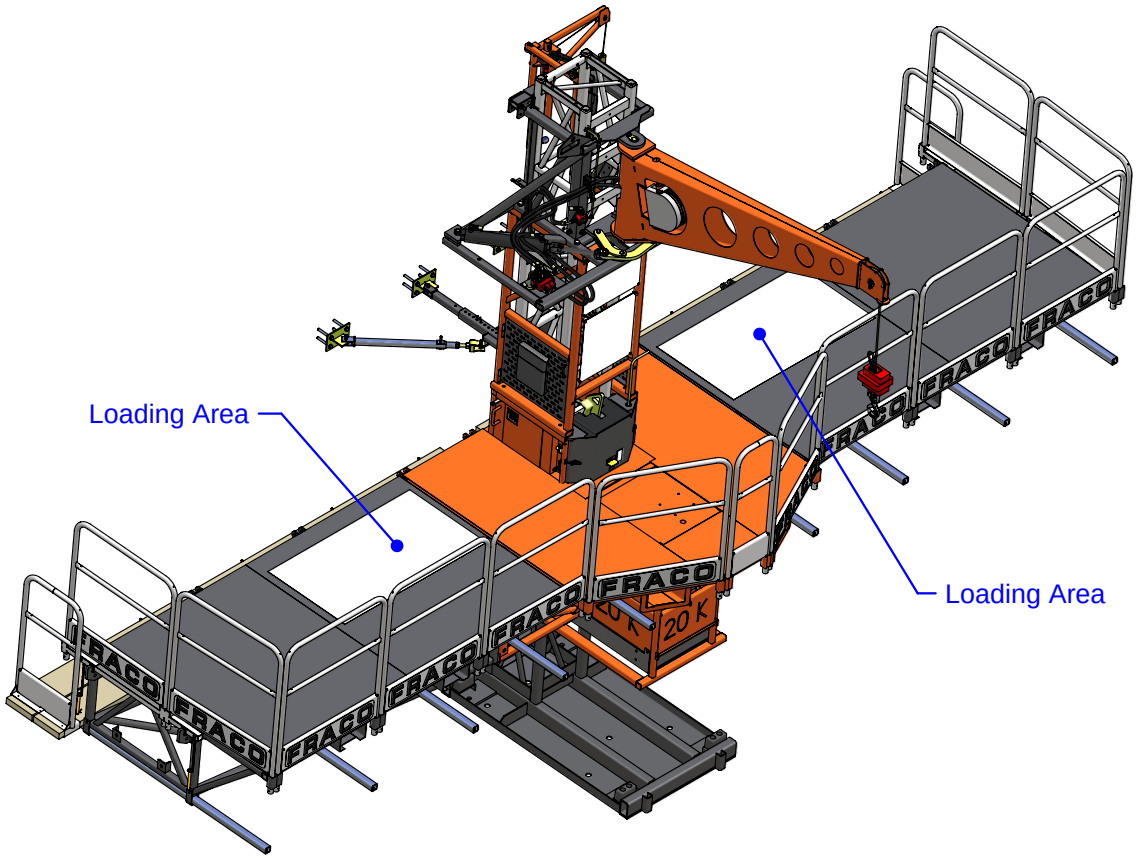


Figure B.7
Loading Area

- Valid for Braden Gearmatic Winch (Model: B64A05 119-01)
- The hydraulic pressure must be ajusted according to the cable diameter and the assembly of this cable must be done by a person who has received « Level 3 » training given by FRACO.
- A minimum of (5) five wraps of wire rope should remain on the cable drum at all times.
- Always put loads in the loading area of the cantilever section (see Figure B.7).

Cable Dia.3/8 in 2,850 Psi 4,000 Lb Max		
Layer	**Length**	**Capacity**
1	26' 0"	4,000 lb
2	66' 0"	4,000 lb
3	109' 0"	4,000 lb
4	156' 0"	3,800 lb

Cable Dia.5/16 in 1,850 Psi 2,500 Lb Max		
Layer	**Length**	**Capacity**
1	33' 0"	2,500 lb
2	79' 0"	2,500 lb
3	129' 0"	2,500 lb
4	183' 0"	2,500 lb
5	241' 0"	2,500 lb

Cable Dia.1/4 in 1,200 Psi 1,000 Lb Max		
Layer	**Length**	**Capacity**
1	43' 0"	1,000 lb
2	100' 0"	1,000 lb
3	160' 0"	1,000 lb
4	224' 0"	1,000 lb
5	292' 0"	1,000 lb
6	364' 0"	1,000 lb

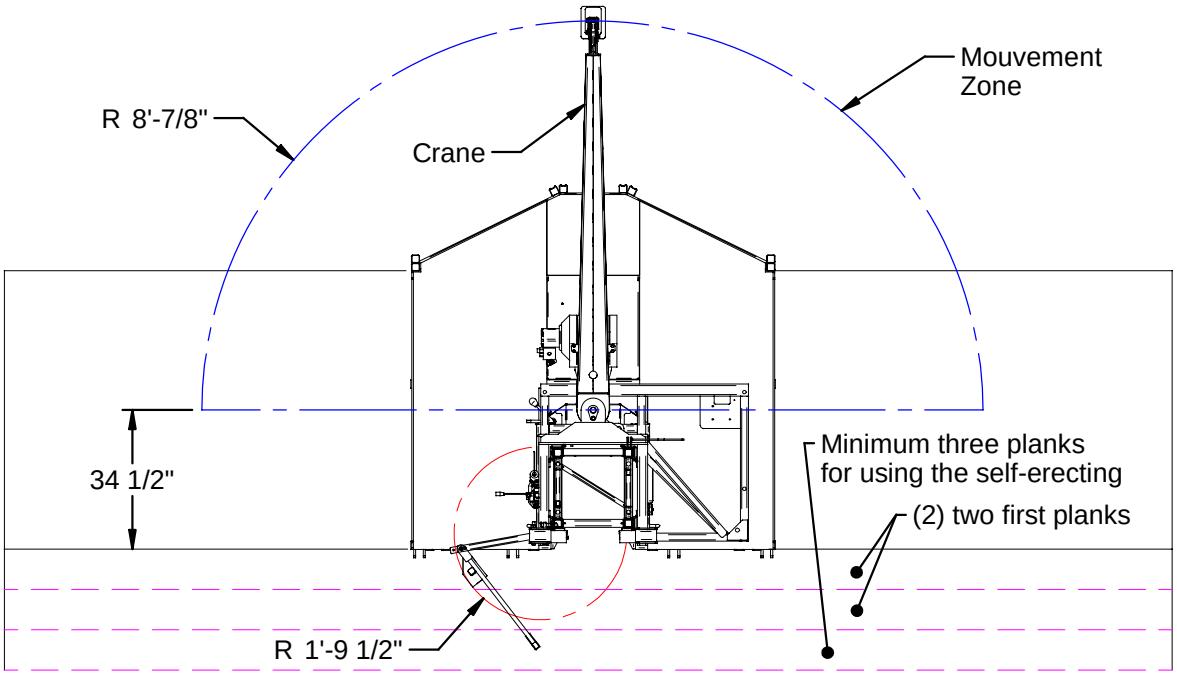
Loading Capacities (continued)

Dimension of mouvement zone (see Figure B.8)

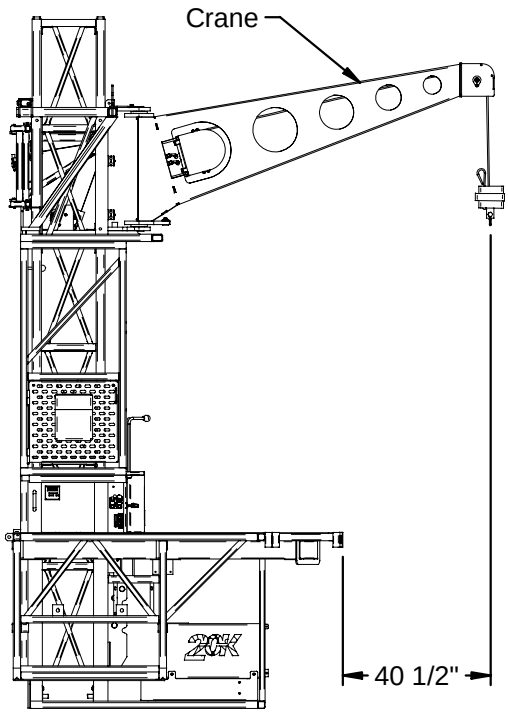
- 40 1/2” behind the elevating unit and the cable of the crane (see Profil View).
- Rayon 8’-7/8” of the mouvement zone and rayon 1’-9 1/2” of the self-erecting (see Plan View)

Important :

- For using the self-erecting, the minimal planks configuration must be (3) three planks.



Plan View



Profil View

Figure B.8

FRACO

User's Guide Self-Erecting of FRH-4000

Table of Contents

CHAPTER A

Installation

Preparation to Install A-2
Installation on the FRH-4000 . . . . . A-3
Installation of the Control Arm A-4
Connection A-5

CHAPTER B

Operation

Operation of the Cable B-2
Operation of the Control Arm B-3
Using the Platform Without the Self-Erecting B-4

CHAPTER C

Transportation

Preparation to transport C-2

CHAPTER A

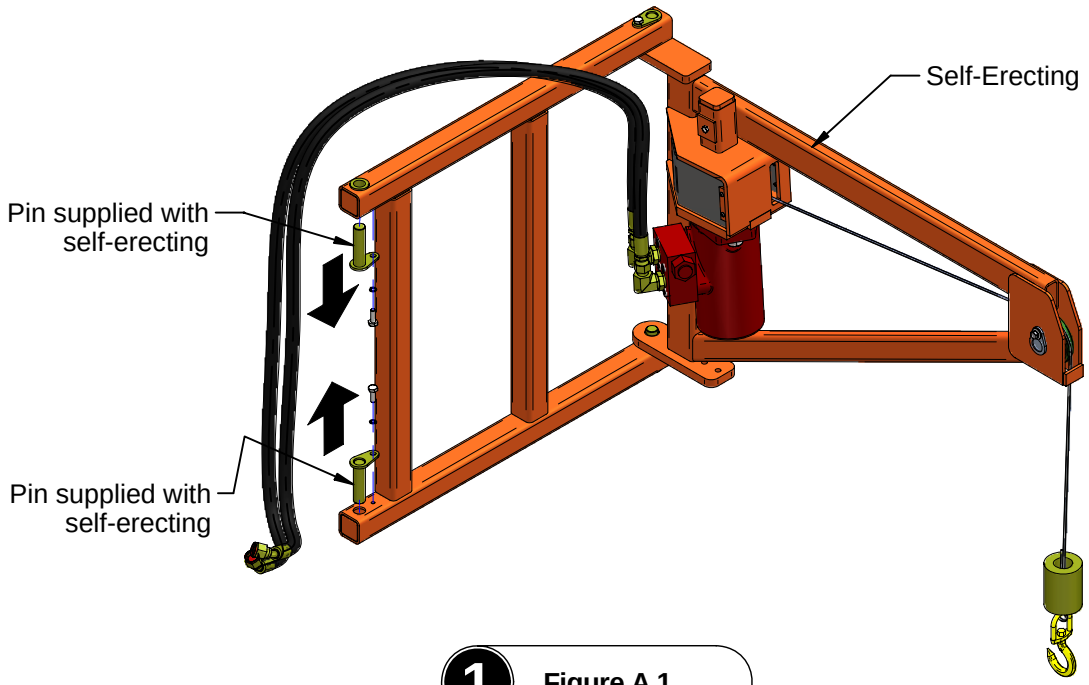
Installation

- Preparation to Install A-2
- Installation on the FRH-4000 . . . . . .A-3
- Installation of the Control Arm A-4
- Connection. A-5

Preparation to Install

Step 1 (see Figure A.1)

- Cut the Tie-Raps.
- Unscrew the pins.
- Remove the pins.

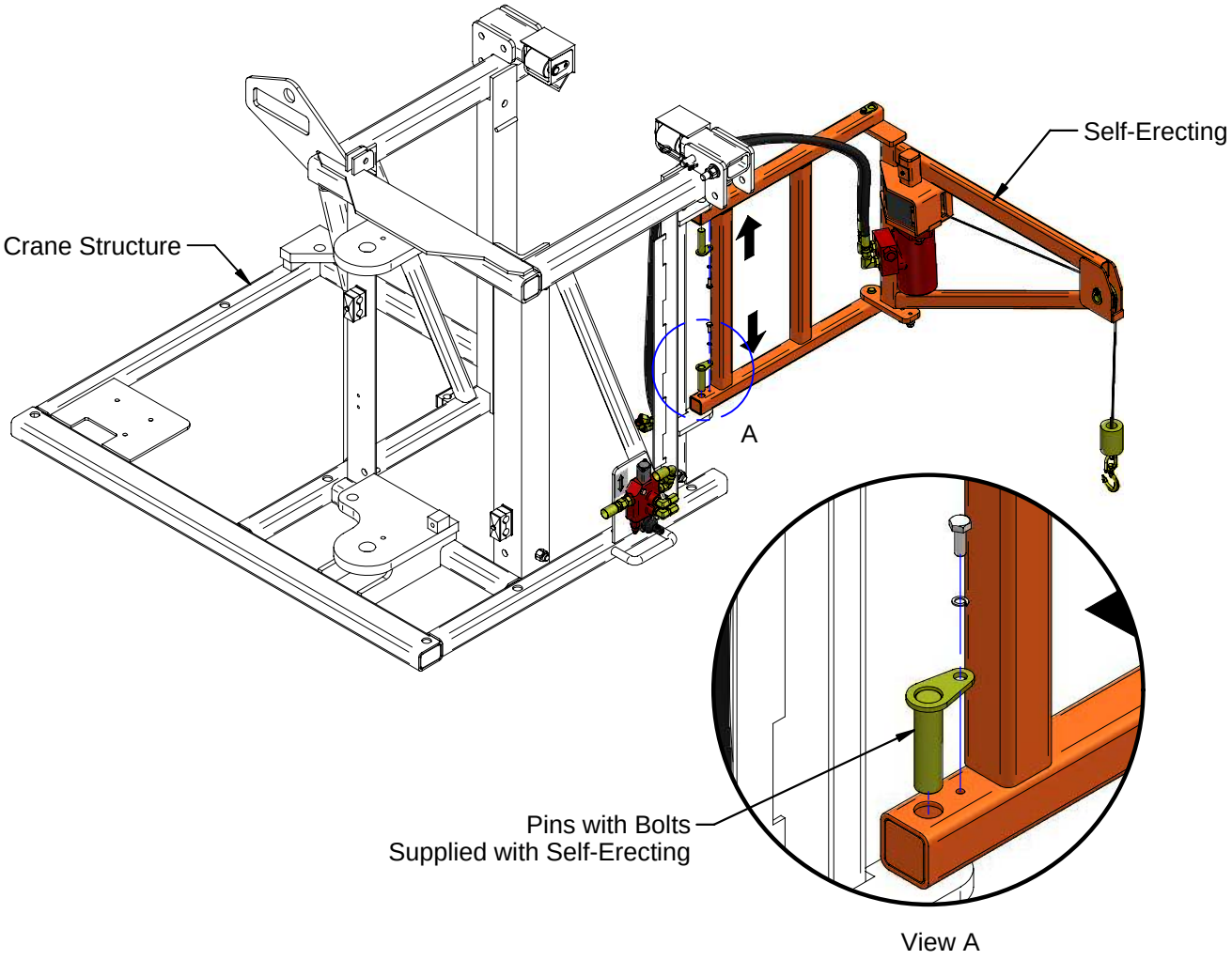


1 **Figure A.1**

Installation on the FRH-4000

Step 2 (see Figure A.2)

- Position the self-erecting on the crane structure.
- Fix the self-erecting with two pins supplied with the self-erecting.
- Screw the pins.

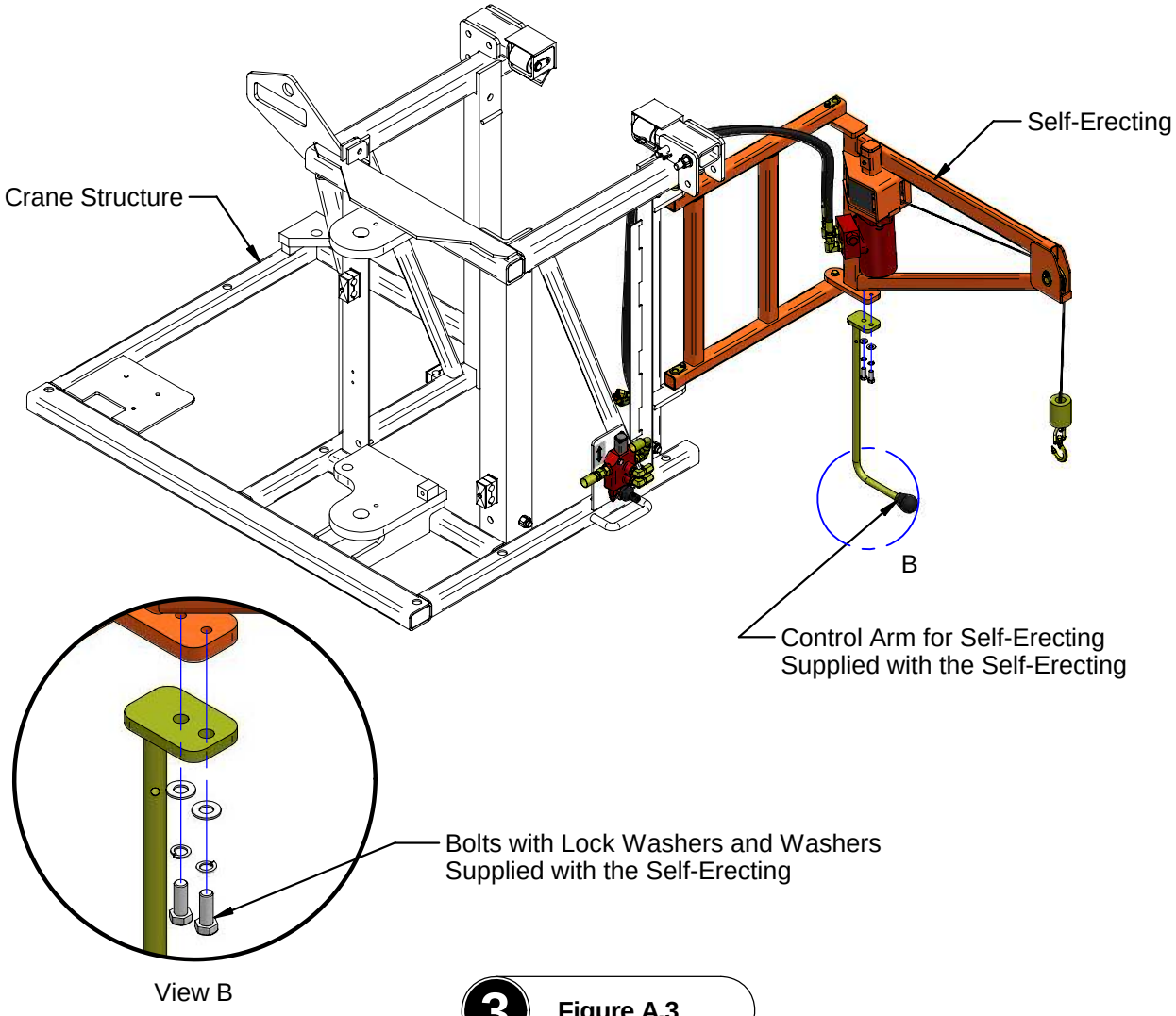


2 **Figure A.2**

Installation of the Control Arm

Step 3 (see Figure A.3)

- Unscrew the (2) two bolts under the self-erecting.
- Position and bolt the control arm with the (2) two bolts supplied with the self-erecting.

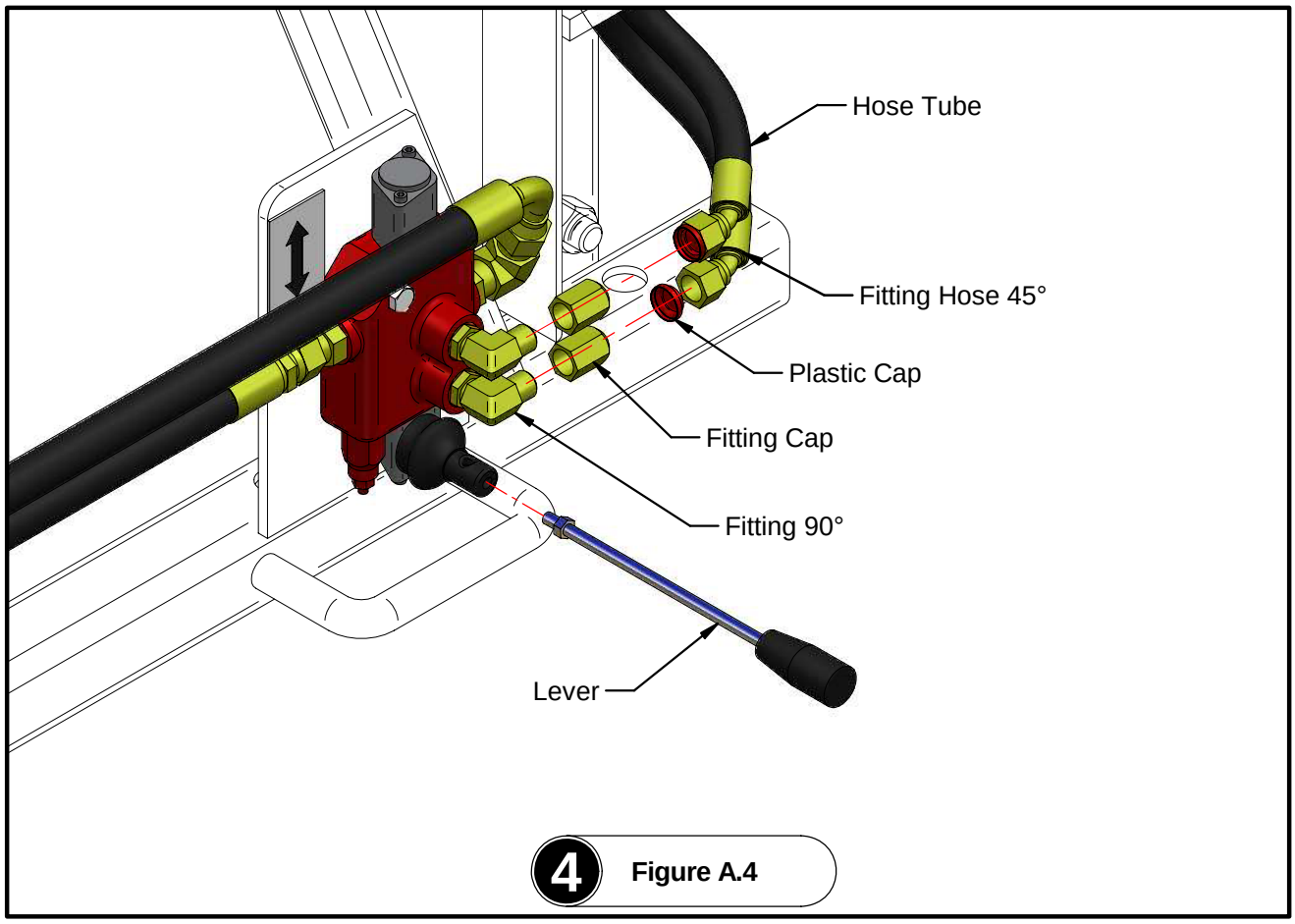


3 **Figure A.3**

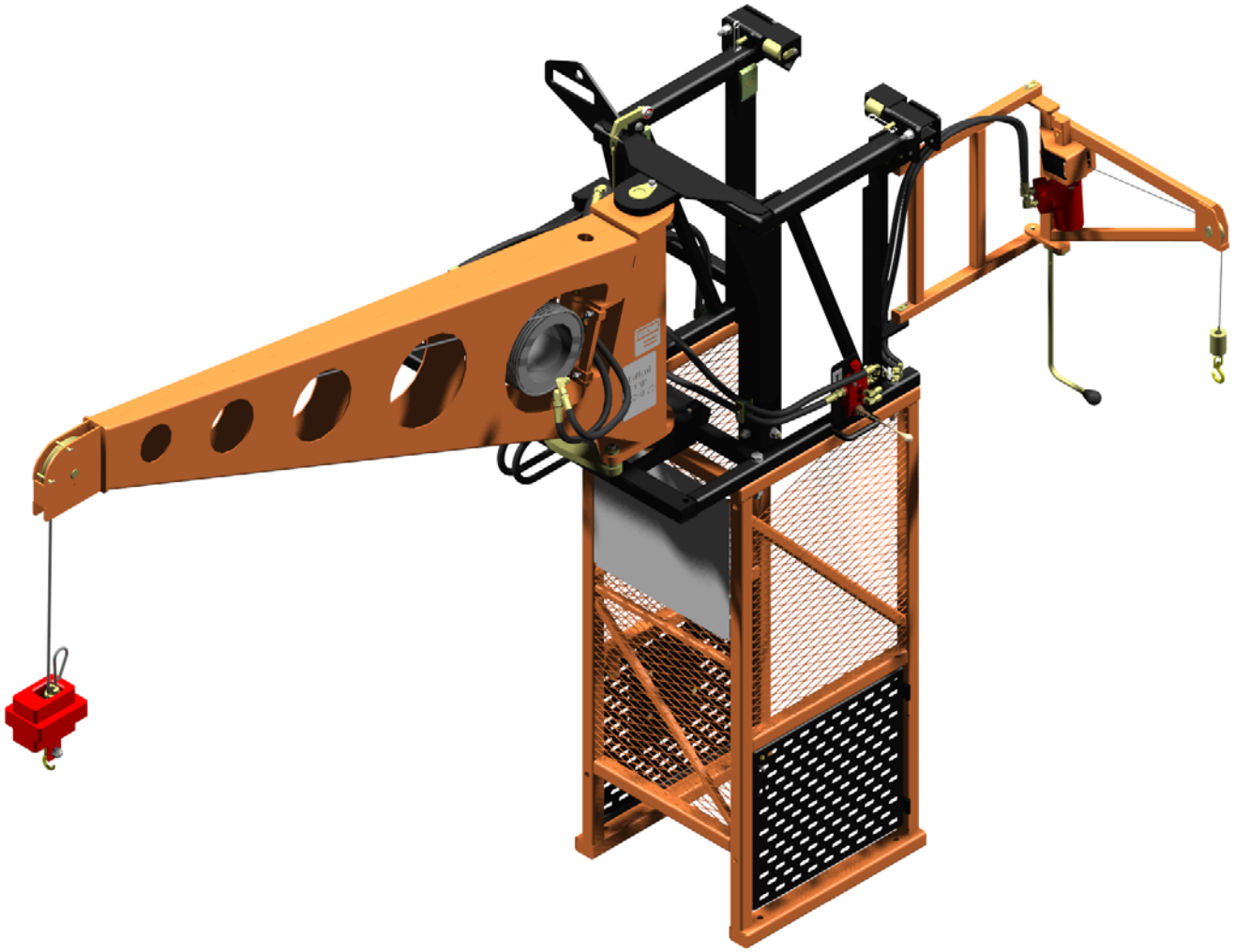
Connection

Step 4 (see Figure A.4)

- Remove the fitting cap and the plastic cap.
- Connect the hose tube to the valve.
- Screw the Lever (This lever is in the user's guide comparment. See Figure B.4 on page B-3).



4 **Figure A.4**



CHAPTER B

Operation

- Operation of the Cable B-2
- Operation of the Control Arms B-3
- Using the Platform Without the Self-Erecting B-4

Operation of the Cable

Operation Cable (see Figure B.2)

- Raise the lever and the cable move up.
- Lower the lever and the cable move down.

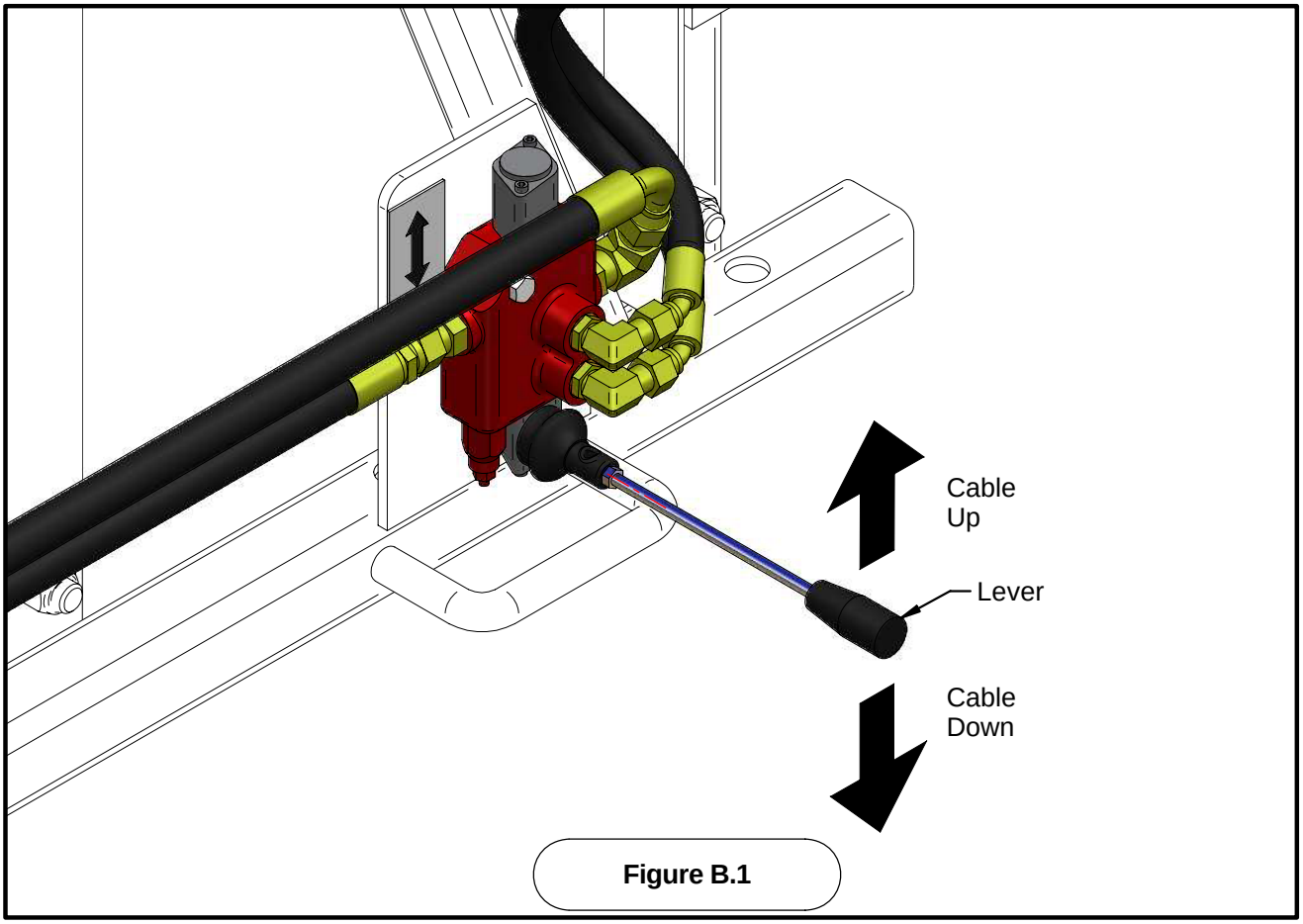


Figure B.1

Control Arm (see Figure B.2)

Operation of the Control Arm

- To move the self-erecting above the mast sections, used the control arm.

Important

- Once the last mast section reaches the security device, the portable crane stops but the cable of self-erecting operates.

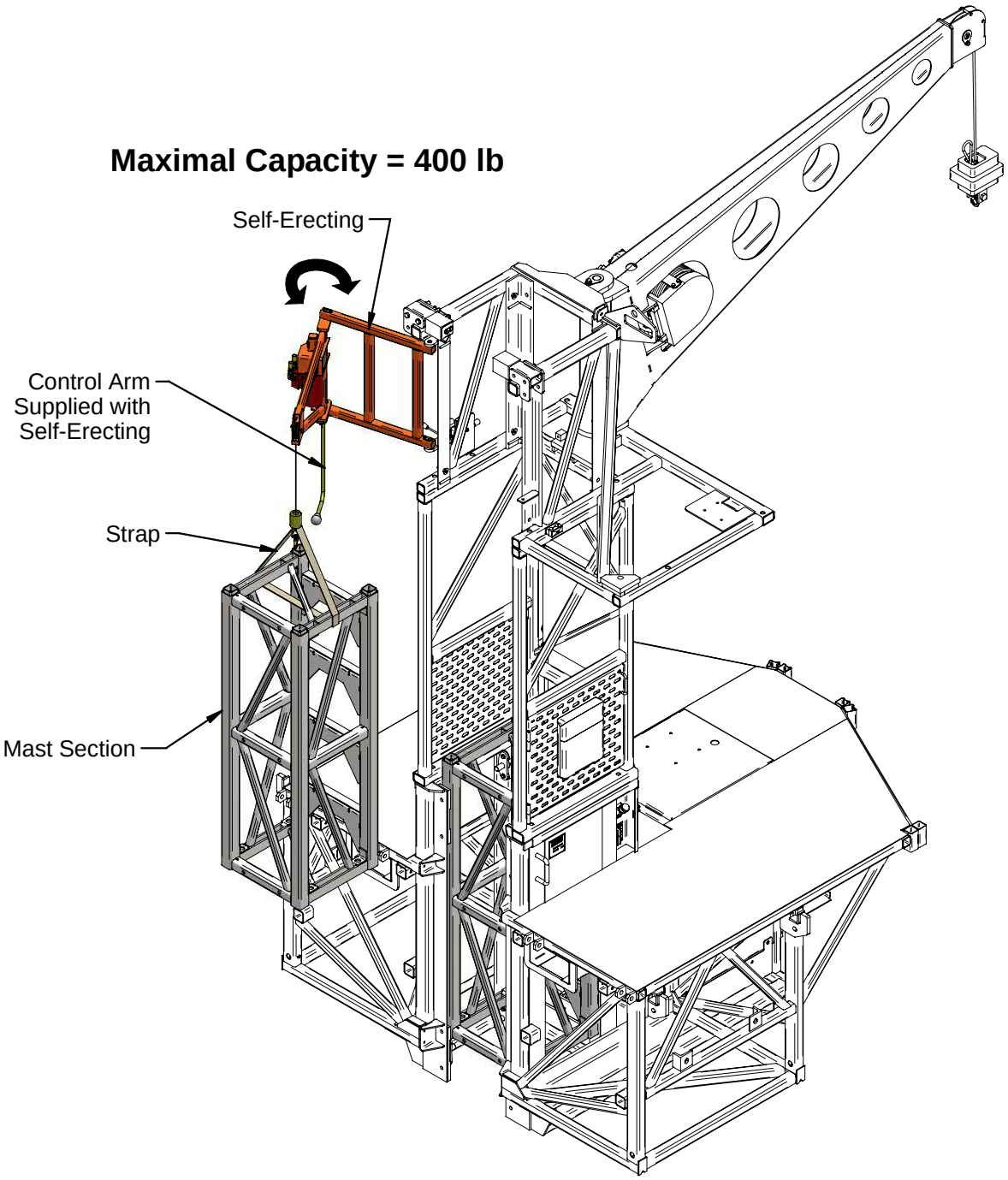


Figure B.2

Using the platform (see Figure B.3)

Using the Platform Without the Self-Erecting

- Turn the self-erecting to exterior of crane structure and attach the self-erecting to the handle of the crane structure.
- Raise the cable to tighten the cable of the self-erecting.

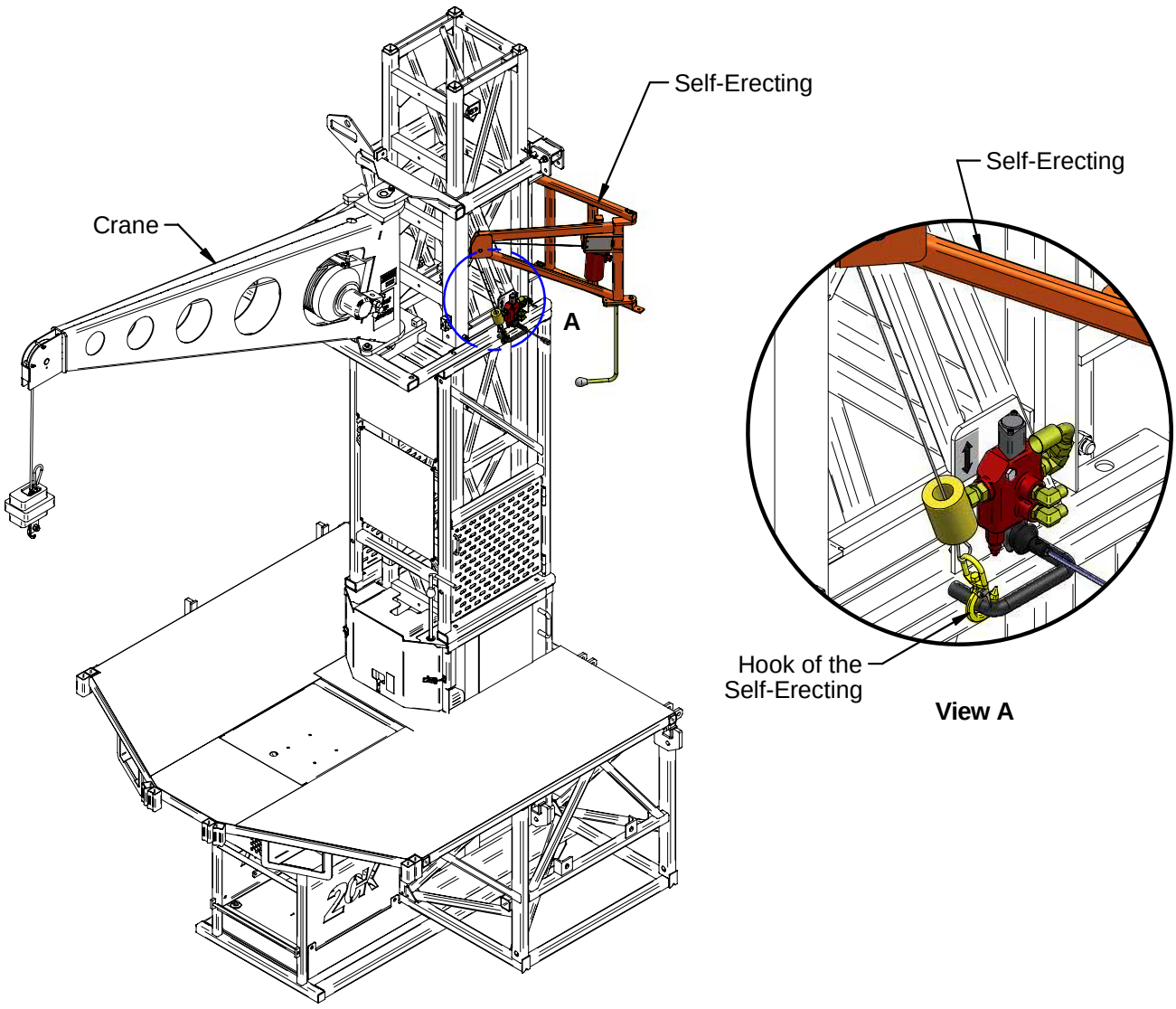
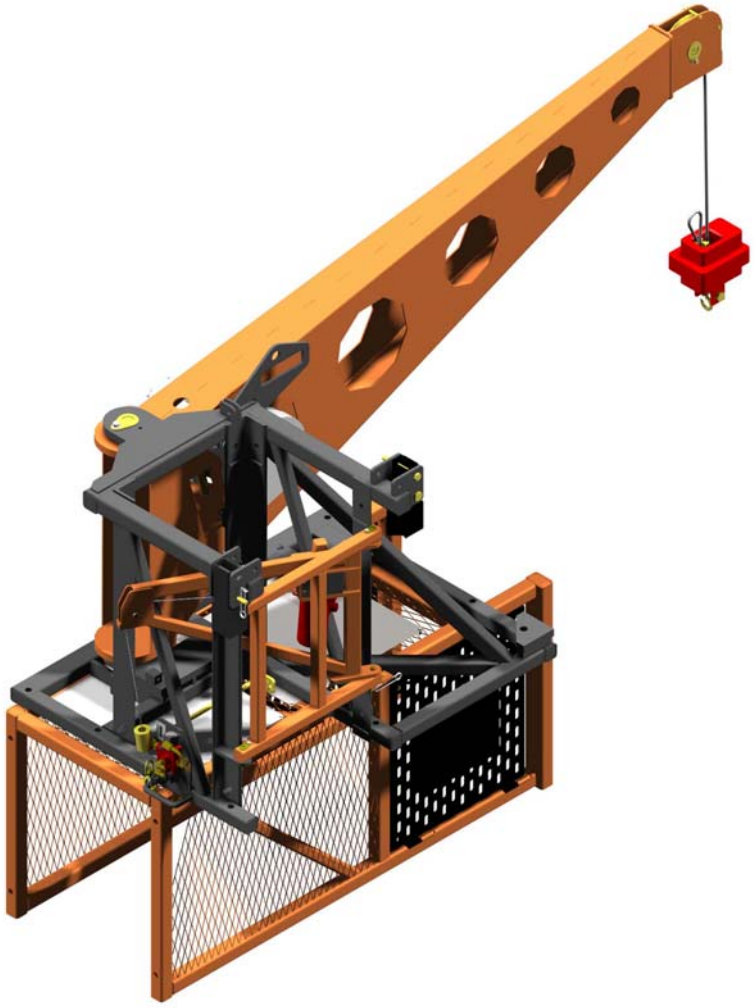


Figure B.3



CHAPTER C

Transportation

- Preparation to transport C-2

Preparation to transport

Step 1 (see Figure C.1)

- After dismantling the mast sections and the platform is on the ground, turn the self-erecting into the crane structure (the boom must be pointed at the side of the valve).
- Fix the self-erecting on the crane structure with the pin supplied with crane structure (see View B).
- Attach the hook of the self-erecting into the handle of the crane structure (see View A).
- Raise the cable to tighten the cable of self-erecting.

Step 2 (see Figure C.1)

- Remove the crane with wire mesh protection
- Install to transport as shown in Figure C.1.

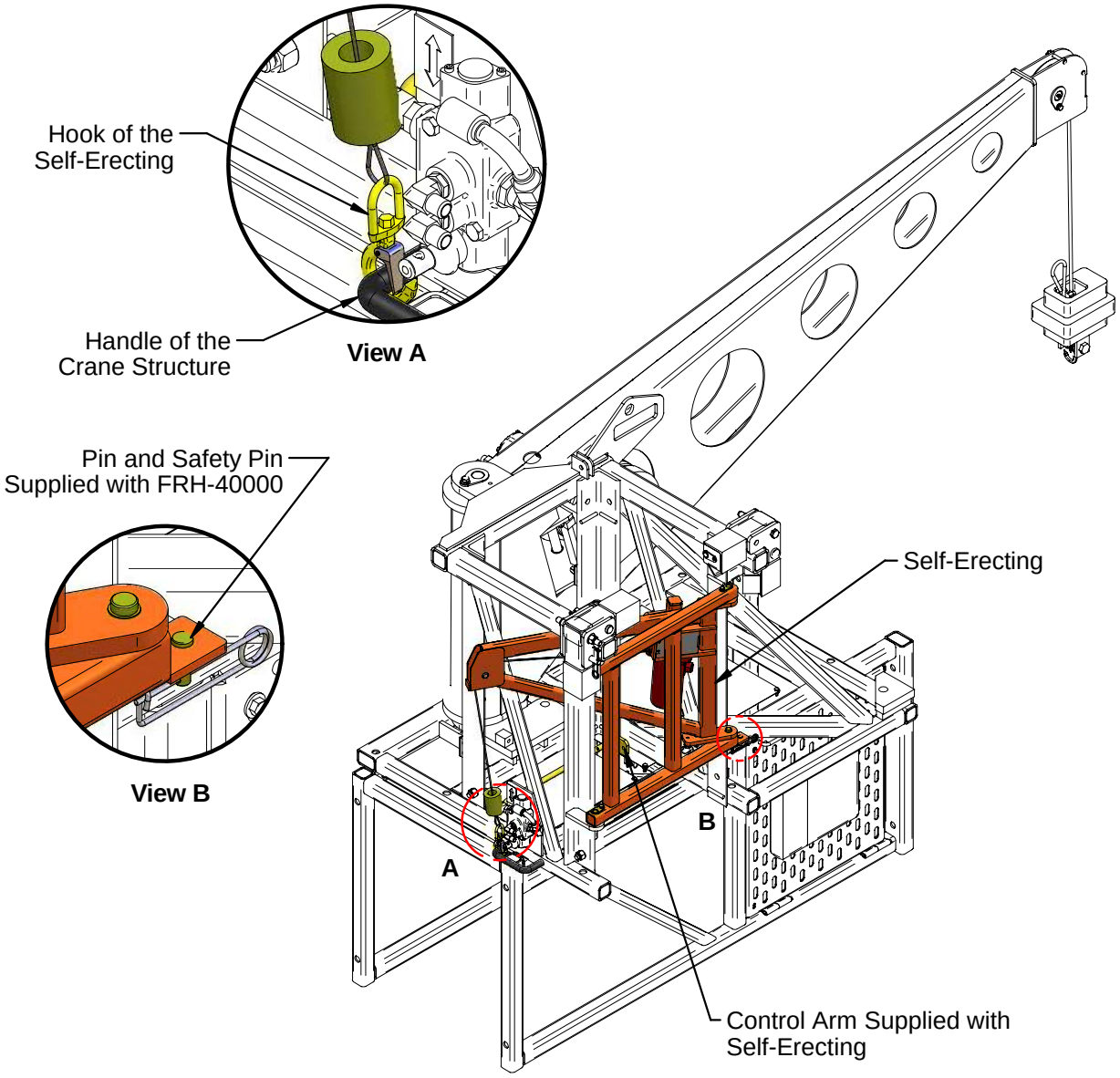


Figure C.1